

# Key Facts for Truck Scale Buyers

2012



**RICE LAKE**<sup>®</sup>  
WEIGHING SYSTEMS

To be the best by every measure<sup>®</sup>

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# SURVIVOR<sup>®</sup> SERIES



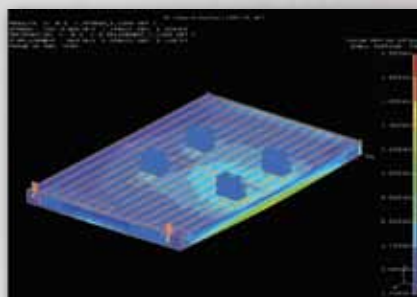
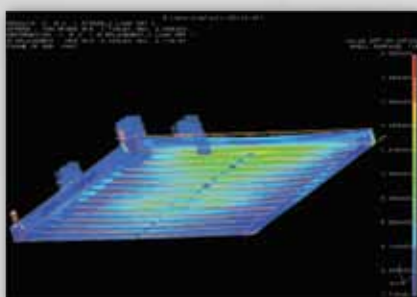
## From the Ground Up

Your truck scale is your cash register. Raw materials come in and finished products go out, so having an accurate and dependable truck scale is essential to the success of your operation. A truck scale is a long-term investment that, with reasonable care, should easily provide 25 years or more of dependable service.

There are a variety of options in the truck scale market today, and to the casual observer, initial acquisition price may be the only differentiator. However, manufacturers promising great bargains are able to do so only because they've cut corners at some stage of the process; be it design, materials, components, finish or all of the above. While the price may seem attractive now, the eventual failure of a lower quality truck scale could mean a higher Total Cost of Ownership, meaning extensive downtime, increased maintenance costs and lost revenue.

The differences between an exceptional quality scale and primarily price-driven models aren't always apparent. Unfortunately, the most critical differences are rarely realized until it's too late. Rice Lake Weighing Systems developed this document to help you identify the characteristics of a vehicle scale that substantially affect the performance or longevity of your investment.

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## Finite Element Analysis (FEA) Technology

Our mechanical design engineering team uses the latest FEA technology to identify key stress points and develop a thorough understanding of the effects of deflection on accuracy and longevity. The result is optimum weighbridge integrity.

## Quality Starts with Design

Rice Lake Weighing Systems recognized a need for increased durability in the truck scale market. Acting on that finding, our heavy capacity design team accepted the challenge of re-engineering the industry's truck scale standard. Their goal was to develop a robust line of products that would utilize superior design and materials in order to achieve the ultimate in quality and long-term performance. Through this effort, the SURVIVOR® line was created. The design and engineering involved in producing a truck scale are the basis for durability and accuracy – the two factors that have the most significant impact on your bottom line. By using state-of-the-art Finite Element Analysis (FEA) software, conducting an independent weighbridge stress analysis on each design and following ISO 9001 quality guidelines, every truck scale model has been designed and tested to ensure structural integrity, and has earned NTEP certification (up to 16.5 feet wide on most models). This testing produces superior weighbridge longevity, yielding from 70,000 lb up to 140,000 lb Concentrated Load Capacity (CLC) depending upon the model you chose. FEA determines the amount of steel we use and precisely where we use it, which allows the SURVIVOR line to maintain its ratings for capacity and durability.



## Custom Designs to Meet Your Needs

When existing pit or space limitations require a specially designed truck scale, Rice Lake Weighing Systems is uniquely positioned to deliver custom solutions quickly and cost-effectively. While many manufacturers want you to change your requirements for their convenience, we modify our designs to fit your needs, saving you money by eliminating site reconstruction. Every special order truck scale from Rice Lake is put through the same design and testing methods as the standard models. We even employ a heavy capacity design team strictly for custom designed truck scales.



# INSTALLATION TYPE



Above ground type installation

## Above Ground or Pit

Until the early 1970s, all truck scales were mechanical and installed in expensive concrete pits. Today, most scales are installed above ground or in concrete pits with slab type foundations. With the benefit of new modular construction, scales can also be installed in a shallow pit, as opposed to the deep pit required by older mechanical scales. One of the biggest reasons for choosing a pit type installation is space – or lack of it. A pit installation requires less space than a pitless installation as longer approaches are generally required for pitless foundations. However, pit type scales require sump pumps and drains, and are more vulnerable to accelerated rust and corrosion due to the potential of standing water in the pit.

	Pit	Pitless
<b>Cost</b>	More expensive due to additional grading, reinforcing steel and concrete	Less expensive due to less construction work
<b>Service &amp; Scale Repairs</b>	In some cases, more costly due to confined area restrictions, which often require gas detection devices and operator safety harnesses to be used	Less difficult or costly and serviced from the deck of the scale
<b>Clean Out</b>	Done manually and very time consuming "Bucket by bucket"	Quick and easy, done with a water hose or air compressor from the side
<b>Scale Inspection</b>	Must be done from inside the pit	Can be performed by simply walking around the perimeter of the scale
<b>Restrictions or Hazards</b>	Some states require specified clearances underneath the scale. Must also deal with OSHA and confined space hazards regulations.	Some states require specified clearances underneath scale
<b>Approaches</b>	10 feet flat and level	10 feet flat and level
<b>Ramps</b>	None	Typically 25 feet long on each end of the ramp. Requires more real estate to install and operate
<b>Electricity Needed</b>	Must have electricity for pit lights and sump pump if no gravity drain is present.	No pit lights or sump pump required



Pit type installation

## The Right Foundation

The foundation is one of the most important parts of your scale. If it's not constructed properly, built flat and level, or according to the certified foundation drawing, your scale foundation could shift and bring the scale out of accepted calibration tolerance. If the movement continues, your scale will become inoperable and require costly foundation repairs. Many factors must be considered in the process, such as the slope of the site and soil conditions. Below are a few other factors that must be taken into consideration.



## Foundation Types

You have a few foundation options.

### Deep Pier

Typical for the northern areas of the United States, the deep pier foundation places part of the foundation below the frost line to eliminate the negative effects that freeze-thaw conditions create with foundations. Similar to the isolated pier foundation, the deep pier foundation also requires 3000 PSF soil bearing pressure.

### Full Slab

A full slab foundation is a continuous or monolithic pour of concrete that runs the entire length of the weighbridge. This is the second most cost-effective type of foundation and is designed for ground that has a soil bearing pressure of at least 1500 PSF.

### Pit-type

The pit foundation comes in numerous depths from 2 feet to 6 feet. Your pit depth should best fit your needs and meet all federal, state and local requirements.

## Ensuring a Proper Foundation

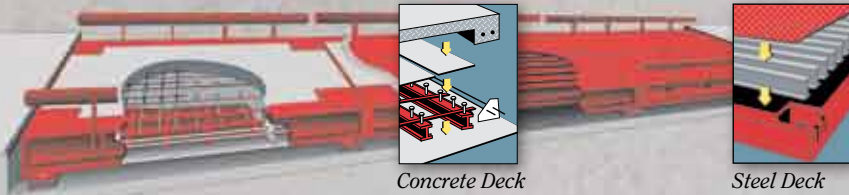
The SURVIVOR® line's quality design and engineering is further complemented by our ability to provide professionally certified foundation drawings for your truck scale. A key requirement for a truck scale to function properly is the right foundation. These drawings give you the necessary specifications for a foundation that will fit your scale perfectly.



## Approaches & Ramps

According to Handbook-44, all approaches for any type of NTEP Certified, legal-for-trade truck scales shall be 10 feet long, flat, level, the width of the scale and constructed of concrete. The ramps plus the approach must be at least half as long as the scale, but no more than 40 feet. A 70 foot long scale must have a minimum of 25 foot long ramp and the approaches must be 10 feet long for a total of 35 feet. This equates to a total length of 140 feet needed for a 70 foot long above ground truck scale. Check with local and state regulatory agencies for required approach lengths.

# WEIGHBRIDGE



Concrete Deck

Steel Deck

## Steel or Concrete?

A big consideration when choosing a truck scale is whether to select a steel deck or concrete deck weighbridge. Both have advantages. Here are a few differentiating features that will help you choose the right type.

### Concrete Deck

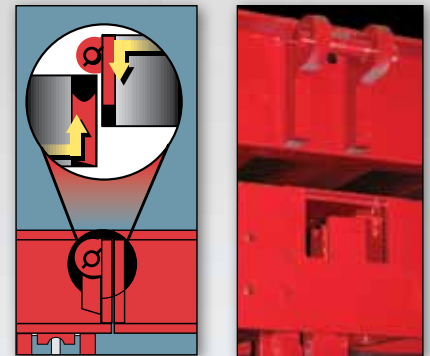
While a concrete deck needs approximately 21 to 28 days to cure, it offers greater resistance to rust and corrosion from road salt and generally requires less maintenance than steel decks, helping to extend the life of the scale. A concrete surface also yields better traction with rain and snow. Because of their design, concrete decks distribute the load over a wider area than steel decks. SURVIVOR® Series concrete deck truck scales are poured at the job site and typically have cure strength of 4,000 PSI at 28 days. The concrete is reinforced with steel rods and a minimum of two wide-flange main beams and seven wide-flange beams below.

### Steel Deck

A steel deck typically involves less initial cost – there is no investment in concrete or the labor to pour it. A steel deck scale weighs less, which makes it easier to move or relocate if needed. It can be fully operational within a day, reducing production downtime. SURVIVOR steel deck truck scale designs are consistent with the design standards used by the American Association of State Highway and Transportation Officials (AASHTO). The diamond checkered steel tread plate is supported by wide flange structural I-beams positioned longitudinally with traffic flow.

### Modular Designs Grow With Your Business

Weighing applications and process needs can change with the demands of commerce. As businesses grow and weighing requirements are expanded, often times additional modules need to be added to an existing truck scale system. You need to be certain that your scale manufacturer can produce an additional module that fits perfectly with your current scale. Fixtures are used to create SURVIVOR truck scales. These fixtures regulate the production of every truck scale model, guaranteeing uniform consistency in our build process and ensuring our scales can be retrofitted.



### Span Deflection Ratio

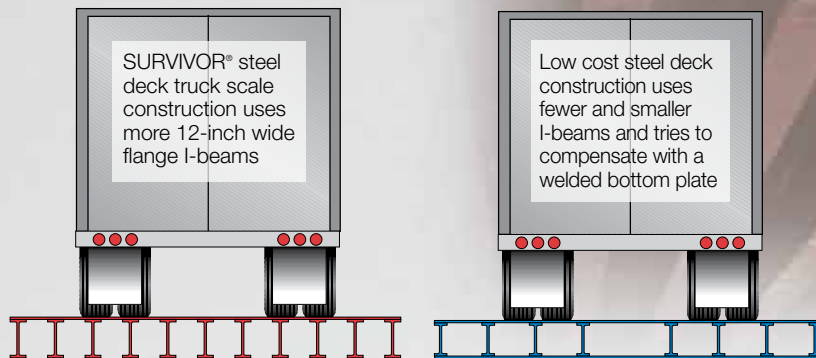
The best method of determining weighbridge strength is one that is also used by railroads – span deflection. Deflection is the vertical flexing of the weighbridge. Span deflection is considered to be a more accurate measure of weighbridge strength than past methods because of its base of solid engineering calculations. Span deflection of a truck scale can be determined by dividing the span of the model by the actual deflection. Still, one of the best judges of a scale's ability to stand high traffic volume and heavy truck loads is the steel content of the bridge.

The heavy-duty construction of all SURVIVOR truck scales helps minimize deflection and extend the life of the weighbridge. With less deflection and less bending stress occurring in the weighbridge, the longer the life of the scale.



## A Superior Weighbridge

The structural integrity of the weighbridge is the single most important consideration in the purchase of any truck scale. A failing weighbridge results in continuous problems that can only be solved with replacement. Our standard models are comprised of beams spaced no further than 12 inches from center line or 8 inches from the edge of one flange to the next. This design ensures that a truck tire is on an I-beam at all times and never between.

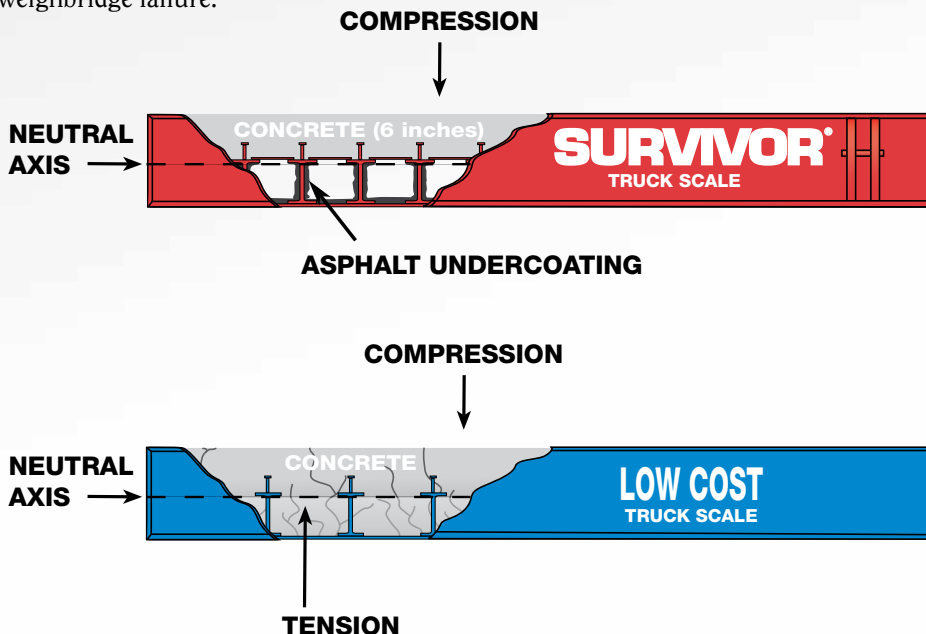


### Steel Deck

Many other manufacturers use lighter beams, C-channels in the middle of the bridge or space beams further out from the center of the module to reduce the cost of the scale. Over time, this type of bridge can bow or dimple, causing inaccuracies in weighments, scale downtime and eventually complete failure.

### Concrete Deck

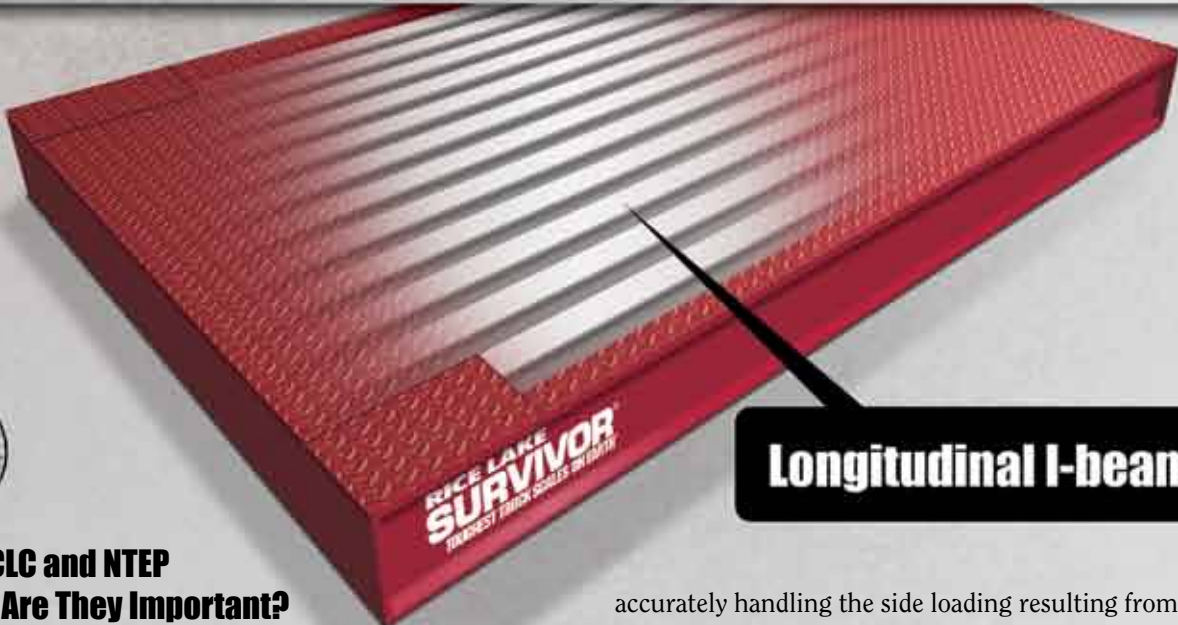
The SURVIVOR® concrete deck design incorporates galvanized steel sheets working in conjunction with I-beams to ensure that concrete remains above the neutral axis of the weighbridge. Many low cost models contain concrete below the neutral axis. Concrete below the neutral axis increases tension causing the deck to crack and eventual weighbridge failure.



### A Major Investment

A vehicle scale probably represents one of the most expensive weighing systems you will ever buy. With that expense in mind, the decision must be founded on long-range planning that takes into account all present and likely future uses of the scale system. Ideally, a qualified project engineer familiar with your industry's needs and write specifications for a comprehensive solution to meet those needs. Alternately, you can do your own analysis and then write your own specifications before purchasing a vehicle scale. Whichever method you choose to transfer your needs to a written specification, the variety of information needed may surprise you. Engineering specifications are available at [www.ricelake.com/truckscales](http://www.ricelake.com/truckscales)

# APPROVALS AND LIGHTNING PROTECTION



**Longitudinal I-beams**

## What is CLC and NTEP and Why Are They Important?

Concentrated Load Capacity, or CLC, is an industry recognized load rating of any vehicle or axle load scale. The rating defines the maximum load for which the weighbridge is designed as applied by a group of two axles with a center line spaced 4 feet apart and an axle width 8 feet apart. When a CLC load is applied to the weighbridge during a National Type Evaluation Program test, the NTEP tester records the displayed weight. If the scale falls within accepted testing tolerances, the scale has that CLC weight value recorded as the CLC on the Certificate of Conformance.

The CLC rating is not a measure of weighbridge strength or rigidity, because weighbridge deflection is not measured in the NTEP test. It is irrelevant if the load weighbridge sags 1/10th of an inch, or 10 inches, as long as the scale weighs within the accepted tolerance. The scale's CLC weight rating passes in either case. A high CLC rating could be given to an extremely flexible deck sitting on load cell mounts which are capable of

accurately handling the side loading resulting from a severely sagging weighbridge.

The SURVIVOR® OTR Series truck scales boast up to a 140,000 pound CLC rating. With most legal highway weight limits being a fraction of our rating, owners of a SURVIVOR scale can expect a long lifespan through the most rigorous weighing processes of two million weighments or more. NTEP provides a set of procedures for the uniform testing and evaluation of weighing equipment. For a truck scale to be NTEP Certified, Legal-For-Trade, the entire truck is weighed, not just a single axle or group of axles. The SURVIVOR OTR Series is approved for up to 270,000 pound full scale capacity with a 140,000 pound CLC rating, earning NTEP Certification up to 16.5 feet wide. NTEP has additional guidelines for truck scales, such as the required length of approach ramps. For clarification on your state's requirements, we can refer you to one of our qualified dealers who can help you determine the best site for your scale to meet those guidelines.

## Lightning and Transient Protection

All SURVIVOR truck scales feature a standard lightning protection package. The individual components of this comprehensive package include:

- DC transient protection board in each junction box
- Copper transient bypass cables for each load cell
- Self-contained DC transient protection in home run cable to indicator
- Single #10 bare ground conductor cable buried in ground from scale frame to DC transient board in junction box to DC transient board at indicator, then to AC power ground lug
- 120 VAC uninterrupted power supply/surge protector in AC line before indicator
- 5-year warranty – contingent on bi-annual inspection of the site and transient protection electronics by qualified Rice Lake distributor





## A Proper Finish

Rice Lake's industry leading exclusive 5-step finishing process ensures lasting performance and a long life for your truck scale.

### STEP 1: Abrasive Blast Cleaning

The first step to ensure a long life span of the scale's surface is removing any contaminants such as mill scale, oil or other residue. Achieving this requires using a centrifugal steel shot blasting system which blasts a mixture of steel grit and shot simultaneously to remove contaminants.

### STEP 2: Cleaning

Throughout the manufacturing process, saw lubricants and weld residue adhere to the steel of a weighbridge. If the steel is not properly cleaned, paint will flake and wear away, diminishing its appearance, exposing the scale to the elements and shortening its life span. Although paint can initially hide much of this residue on a lower quality truck scale, it will quickly appear once in the field. Rice Lake uses an intense cleaning process to remove all foreign materials and residue before painting to ensure proper bonding of the paint.

### STEP 3: Protective Coating

All non-visible steel surfaces are evenly sprayed with an asphalt emulsion coating to protect the steel from internal moisture due to high humidity, excessive rain or standing water under the scale. This asphalt emulsion compound is abrasion resistant, sound dampening and features a salt spray rating double that of which many competitors provide with their simple paint coating. Simply put, quality undercoating protection increases the life span and value of your investment.



### STEP 4: High Solids Urethane Primer

Once the steel is properly cleaned and prepped, all visible surfaces receive a 2- to 3.5-mils thick coat of high solids urethane primer. High solids urethane primer has many beneficial features that add life to your truck scale including:

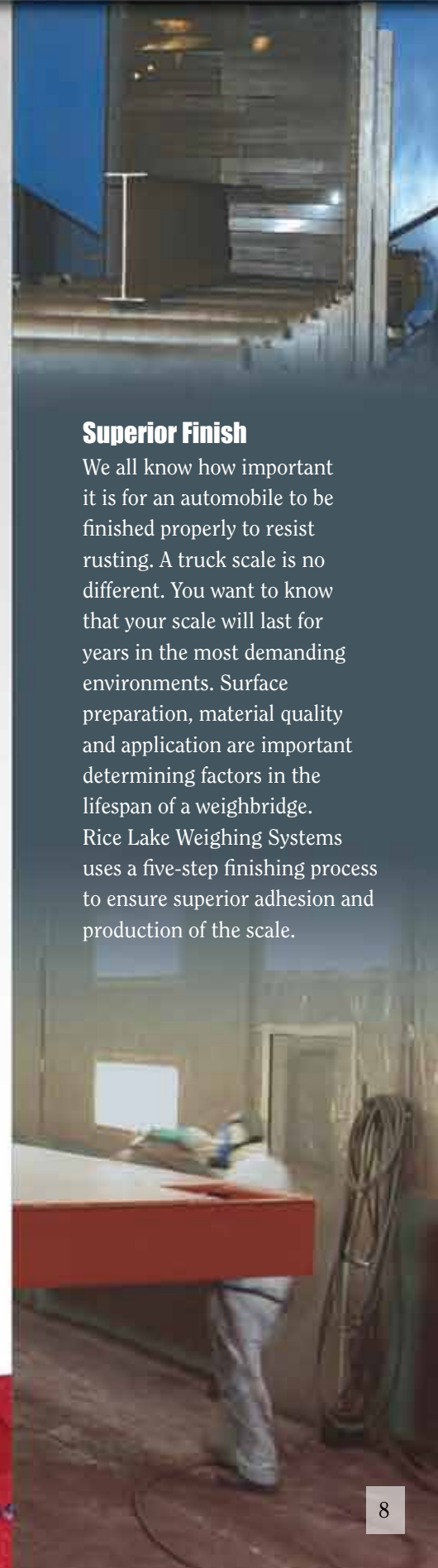
- High corrosion resistance
- Excellent adhesion to steel
- High color retention
- Rust and corrosion resistance

### STEP 5: High Solids Urethane Paint Finish

A 2- to 4-mills thick high solids urethane paint finish is applied over the primer. The urethane paint provides excellent durability, mar and chemical resistance as well as a smooth, glossy finish and gives every SURVIVOR® scale its polished look and added protection against the environment.

## Superior Finish

We all know how important it is for an automobile to be finished properly to resist rusting. A truck scale is no different. You want to know that your scale will last for years in the most demanding environments. Surface preparation, material quality and application are important determining factors in the lifespan of a weighbridge. Rice Lake Weighing Systems uses a five-step finishing process to ensure superior adhesion and production of the scale.



# SURVIVOR<sup>®</sup> SERIES

## Selecting the right SURVIVOR<sup>®</sup> for your application

The two biggest factors affecting the anticipated life of the truck scale are truck volume and axle loading.

Weighing more than 100 trucks a day is heavy traffic, yet many customers weigh 200 or more trucks in a day. Anytime the daily volume exceeds 250 trucks per day or roughly a truck every two minutes, back-ups, delays and a loss of future business can be expected. Most companies weighing more than 250 trucks a day will find they need a second scale.

While Rice Lake's SURVIVOR OTR scales have a CLC rating of up to 140,000 pounds, knowing the type of truck and its number of axles can be important in choosing the right scale. It only takes one severely overloaded truck to cause permanent damage to a scale not properly suited for the application. Operations involving quarries, mining operations, fly ash, asphalt, construction, landfills, transfer station, steel mills, logging operations and others require careful evaluation by a professional to specify the right scale for the application.



### **SURVIVOR<sup>®</sup> OTR**

**Heavy-duty, top access, low profile concrete or steel deck scales**

These heavy-duty, top access, low profile concrete or steel deck scales have an outstanding design that incorporates the most advanced engineering and production technology to produce the highest quality vehicle weighing system in the marketplace. The OTR Series scales don't sacrifice quality for price.

Both the OTR concrete and steel deck models boast wide flange I-beam construction. The wide flange beam construction helps minimize span deflection and lengthens the life of your truck scale. Both the concrete and steel deck models are built to be the "Toughest Truck Scales on Earth."<sup>®</sup>



### **SURVIVOR<sup>®</sup> OTR-SV**

**Moderate- to heavy-duty, top access steel deck**

Limits aside, you want equipment you can count on—period. How about a scale that's built for the way you work? The OTR-SV is an above ground, steel-deck design for farms, factories, or other lower-traffic facilities that demand both value and performance. Its 70,000 lb concentrated load capacity, delivers every bit of the accuracy and dependability you'd expect from a SURVIVOR.

The OTR-SV weighbridge is NTEP

Certified Legal-For-Trade

and comes in standard widths of 10 and 11 feet.



# SURVIVOR<sup>®</sup> SERIES



## **SURVIVOR<sup>®</sup> OTR-XV**

### **Extreme-duty, top access steel or concrete deck**

Ideal for the extreme-duty off-road vehicles in mining, coal and heavy aggregate operations, the OTR-XV is as sturdy as they come. An industry-leading 140,000 lb Concentrated Load Capacity (CLC) and patented load cell suspension insure consistent, accurate Legal-For-Trade weighments, even in the most extreme conditions. To minimize deflection and vertical flexing, twelve wide-flange I-beams are assembled together to meet the guidelines of federal bridge standards, and covered with a deck of either 3/8 inch steel tread plate or six inches of solid reinforced concrete. All of these extreme features and benefits are backed by a solid 5-year weighbridge guarantee.



## **SURVIVOR<sup>®</sup> ATV**

### **Heavy or extreme duty, top access portable scales**

The ATV is rigidly constructed for heavy-duty weighing, yet lightweight and compact for convenient portability. The pre assembled modules – from 10 to 30 feet long – and unique self-seating hinge connectors provide easy installation, expansion and relocation for your growing business. The ATV boasts more steel, the strongest weighbridge, and higher quality construction for long-lasting durability and performance. Standard end clean out eases debris removal to help maintain scale accuracy.



## **SURVIVOR<sup>®</sup> SR**

### **Heavy-duty, low profile, concrete or steel deck siderail scales**

The SR concrete or steel deck models are ruggedly designed with massive outboard beams available in a bolted or welded design. The rugged, reinforced load cell pockets offers easy side access to load cells and mounting assemblies. Permanent siderails serve as guides as drivers pull on and off the scale. The SR Series ships as legal highway load from factory to installation site —no permits, no road restrictions and no restricted travel times.



# SURVIVOR<sup>®</sup> SERIES



## SURVIVOR<sup>®</sup> PT

### Heavy-duty, pit-type concrete or steel deck scales







The PT Series truck scale is available in many standard sizes to satisfy varying requirements. We understand that pit-type installations often involve replacing an existing mechanical or electronic scale. With a 42-inch profile, (pier to top of approach) the PT easily fits into many existing pit-type foundations. Standard widths for the PT Series concrete or steel deck models range from 10 to 14 feet, NTEP Certified. Our staff of engineers specializes in custom-built models, including multi-platform scales that conform to the exact requirements of your existing pit. All of this equates to a quicker installation and less disruption to your business.



## SURVIVOR<sup>®</sup> Multi-Platform

### Multi-platform concrete or steel deck scales

Available in a variety of configurations, the SURVIVOR Multi-Platform truck scale rises above all others when checking the weight of each axle and getting a total weight for a truck is imperative. With a 270,000 pound capacity and standard widths from 10 to 14 feet with a steel or concrete deck, the NTEP Certified SURVIVOR Multi-Platform is backed by the reliability of 75,000 pound load cells and G-Force™ mounts. This allows trucks the benefit to haul a maximum legal load while cutting down on overload tickets.

Series	Guarantee	CLC	Deflection*	Widths	Special Features
<b>SURVIVOR<sup>®</sup> OTR</b>	 5 YEAR WARRANTY GUARANTEE	100,000lbs	1:1100 Steel Deck 1:1300 Concrete Deck	10ft., 11ft., 12ft., 14ft. (NTEP Certified up to 16.5ft. wide)	Low-profile design, top access to load cells and junction box for easy installation and maintenance, metal conduit for protection of load cell cable from rodents and crushing, dimensioned to easily fit existing pits.
<b>SURVIVOR<sup>®</sup> OTR-SV</b>	 2 YEAR WARRANTY GUARANTEE	70,000lbs	1:1100 Steel Deck 1:1300 Concrete Deck	10ft., 11ft., 12ft. (NTEP Certified up to 14ft. wide)	Low-profile design, top access to load cells and junction box for easy installation and maintenance, metal conduit for protection of load cell cable from rodents and crushing, dimensioned to easily fit existing pits.
<b>SURVIVOR<sup>®</sup> OTR-XV</b>	 5 YEAR WARRANTY GUARANTEE	140,000lbs	1:1100 Steel Deck 1:1300 Concrete Deck	10ft., 11ft., 12ft., 14ft. (NTEP Certified up to 16.5ft. wide)	Low-profile design, top access to load cells and junction box for easy installation and maintenance, metal conduit for protection of load cell cable from rodents and crushing, dimensioned to easily fit existing pits.
<b>SURVIVOR<sup>®</sup> ATV</b>	 5 YEAR WARRANTY GUARANTEE	100,000lbs	1:1100 Steel Deck	10ft., 11ft., 12ft. (NTEP Certified up to 14ft. wide)	Pre-assembled deck modules for easy installation, expansion and relocation, low-profile design, top access to load cells and junction box for easy installation and maintenance.
<b>SURVIVOR<sup>®</sup> SR</b>	 10 YEAR WARRANTY GUARANTEE	90,000lbs	1:3100 Concrete Deck	10ft., 11ft., 12ft. (NTEP Certified up to 14ft. wide)	Massive 24-inch structural steel I-beams provide maximum rigidity, low-profile design, reinforced mounting bays for easy access to load cells and mounts.
<b>SURVIVOR<sup>®</sup> PT</b>	 10 YEAR WARRANTY GUARANTEE	90,000lbs	1:900 Concrete Deck	10ft., 11ft., 12ft. (NTEP Certified up to 14ft. wide)	Eliminates approach ramps in areas where space is limited, heavy-duty steel manhole frames and covers allow easy access for below-deck maintenance.

\*Legal Highway Loads

## Top Quality Components Standard

Quality components are an absolute requirement for a highly accurate, long-lasting truck scale system. Rice Lake Weighing Systems uses only the best components for the SURVIVOR® line.

In addition, all components for the SURVIVOR line are available from more than 2,000 dealers in our network. These components are non-proprietary, ensuring you'll always have access to quality parts and service.

## The Right Junction Box for the Job

Choose Traditional Protection with JB8SPT TuffSeal™ junction box or improved transient protection and advanced diagnostics with iQUBE<sup>2</sup> digital junction box. The JB8SPT is an eight channel signal trim junction box with built-in transient protection that provides a line of defense against damaging surges and spikes resulting from lightning strikes. Only one junction-box is required for a standard 70-foot truck scale. Many competitive models use sectional junction boxes, introducing even more elements to troubleshoot when something goes wrong. Rice Lake's TuffSeal™ fiberglass-reinforced polyester enclosures feature a membrane that equalizes inside and outside pressure. With TuffSeal, water is repelled while a special water repelling membrane prohibits moisture from entering the junction box.



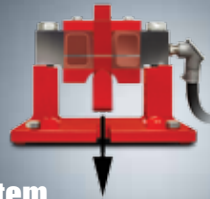
## Top Access to All Electrical Components

An important element of the Rice Lake weigh-bridge design is how our load cell pockets are incorporated. Load cells and electronic components are accessible through the scale deck, allowing for convenient maintenance, even where space is limited. On many competitive weigh-bridge designs, boxes to house the load cells are welded or bolted to the ends of the scale modules. These have a tendency to bend and flex excessively as trucks exit and enter the scale. Over time, these boxes have been known to break welds and can even break away from the main portion of the bridge, causing loss of use and premature failure of the bridge.



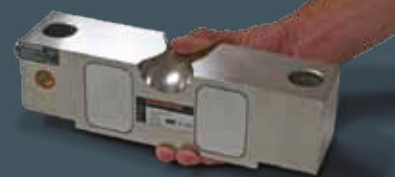
## Steel Conduit Adds Maximum Cable Protection

While other manufacturers use sheathed cable installed outside of the scale, we've gone one step further by utilizing internal steel conduit for load cell cable runs to the junction box. The conduit protects the cable against rodents, prevents crushing, seals out weather elements and makes servicing the scale easier.



## G-Force™ Mounting System

Many competitive truck scales use either bumper bolts or check rods for centering the scale. Bumper bolts require regular maintenance and adjustment, while check rods add to the initial cost of the scale. SURVIVOR® scales utilize the patented G-Force self checking system. G-Force eliminates both the maintenance of bumper bolts and the additional expense related to check rods. The G-Force self-checking mount system eliminates excess movement by using 100 percent of the gravity force from the loading action against itself. This self-centering action or pendulum suspension eliminates binding and protects the load cells from damaging side-load shocks common when trucks start and stop.



## Higher Capacity Load Cells for Heavy-duty Weighing

All SURVIVOR® truck scales come standard with 75,000 pound capacity, IP67-rated, alloy steel load cells. These cells feature a heavier capacity than those provided in many competitive truck scales. Heavier capacity load cells mean a SURVIVOR® scale can handle heavier weighments.

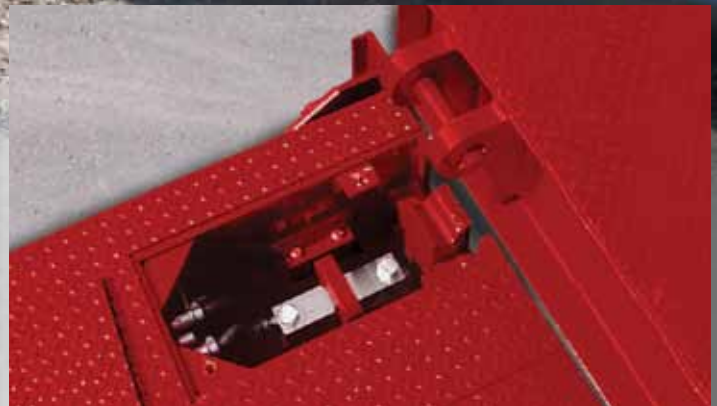
# INSTALLATION



## Standard Three Module Installation



Module A is unloaded from the truck and placed on the foundation.



Module B is then unloaded and fitted with Module A.



Module C is lowered into place.



Wire and calibrate - your SURVIVOR® is ready to weigh.

## Easy Installation Means Immediate Operation

Quality doesn't stop once the manufacturing process is complete. By listening to our dealers, we created the most user-friendly installation process possible. Applying this real-world experience has yielded truck scales that can be installed in a minimal amount of time, getting your production process up and running as quickly as possible. Most of the SURVIVOR® models can be installed in as little as one day.

- Models are strategically loaded on trucks so that when unloaded, they are set in the correct order.
- Identification – all parts and components are clearly labeled and correspond to the installation manual.
- Anchor bolts are included with every scale. It may seem like a small detail, but some other manufactures choose not to include this integral component. When you buy a SURVIVOR®, you're getting the whole scale, down to the nuts and bolts.
- Modules set into place are immediately ready for wiring and calibration.

## Options/Accessories

A quality truck scale is the center of your heavy capacity weighing solution, and should be outfitted with quality accessories for optimal operation and efficiency. Additional options and accessories can be found at [www.ricelake.com](http://www.ricelake.com) or in the Rice Lake Weighing Systems master catalog.

## Attended or Automated Ticketing Solutions

Rice Lake has developed the Automated Ticketing Suite kiosk system for truck identification, load assignment and weighing, and ticketing for numerous applications, such as grain, chemical, liquid, concrete, aggregate and asphalt plant operations. With these new systems, plant managers can optimize the flow of trucks and materials and increase efficiencies throughout their entire operation. Whether your operation is attended or fully automated, Rice Lake Weighing Systems' comprehensive line of accessories and factory support will streamline your operation.

## Automated Ticketing Kiosks (ATS)

From RFID truck identification to load assignment, weighing and ticketing, the ATS optimizes truck traffic and improves safety by keeping drivers behind the wheel. With the user-friendly interface, these kiosks integrate with your central office and accounting systems. Featuring waterproof NEMA 4 enclosures and cast aluminum keypads that protect from the elements and vandalism. Maximize your system efficiency with customized mounting poles, swing-away arms and more.

## On-Trak®

### PC Based Ticketing System

Truck scale operations using manual ticketing systems can automate with OnTrak data management software. OnTrak prints tickets, reports, and stores information to a central database. OnTrak is compatible with many popular operating systems.

## Remote Displays

Featuring a super-bright LED display and a non glare filtered lens, the SURVIVOR® LaserLight® remote display and M-Series messaging remote display are clearly visible—even in direct sunlight. The unique IntelliBright™ feature uses a photo sensor to read ambient light and automatically adjust the display's intensity between day and night settings to optimize power usage. Increase truck throughput with the new 4 inch LaserLight with stop and go lights. The 4 inch and 6 inch LaserLight and 8 and 12-character M-Series models are available with visors.



## HMI Digital Weight Indicators

Rice Lake Weighing Systems offers a complete line of weight indicators to fit any application. The revolutionary 920i® programmable HMI Indicator/Controller takes charge of process applications and provides open connectivity to the most popular networking interfaces. When used in batching/mixing applications, one 920i indicator is capable of handling multiple scales, flow, temperature and pulse. It can control hundreds of I/O set points, queue gates and conveyors, perform yield management functions and store, manipulate and report data. The 820i® HMI Indicator/Controller allows for simplified serviceability and programming support. Any 820i user can automate formula selection, batch start up, data recall and frequently used processes with the push of one button.



# OPTIONS AND ACCESSORIES



## **iQUBE<sup>2</sup> Intelligent Junction Box**

Designed to enhance speed and performance, iQUBE<sup>2</sup> is the next generation of intelligent junction boxes. Designed to monitor load cell performance, and if necessary will even compensate for a failing load cell until repairs can be made. With fiber optic isolation, iQUBE<sup>2</sup> provides superior resistant to transient damage from lightning strikes than a traditional scale system.

iQUBE<sup>2</sup> is ideal for systems requiring single or multiple scales with multiple cells. From floor and hopper scales to large multi-deck truck scales, iQUBE<sup>2</sup> is the required solution for any mission-critical application.

## **Printers**

Our high-speed, high-quality printers include performance features like 180 character-per-second printing and double-strike power to handle up to five-part multi-copy forms. With more than 50 models of ticket, thermal label and RFID-compliant printers along with a full line of media and accessories, you'll find the printer to complete your heavy capacity weighing application.

## **Traffic Signal Kits**

Rice Lake's traffic signals have been tested to more than 80 MPH wind loading on single-point attachments. Corrosion-resistant PVC coatings and stainless steel hardware make the unit virtually impervious to weathering.

## **Guiderails**

Heavy-duty rail system offers a strong, attractive barrier against accidental drive-offs. Offset tube design allows full use of weighing surface and minimizes damage to truck wheels when contact occurs.

## **Additional Options/Accessories**

Manhole and Grated Manhole · End Clean-out  
Barrier Gate · Loop Detector · Intercom System  
Photo Eye · Grain Dump · 3/8 inch or 1/2 inch Deck Plate  
Tread Plate Runners · DOT Guardrail

## **Service/Technical Support**

Underscoring our commitment to customer service, our Service Department is available Monday through Friday from 6:30 a.m. to 6:30 p.m., and Saturday from 8:00 a.m. to noon, Central Time. Serving as a resource center for our dealers, this highly skilled group ensures premier support for installed products.

**USA 800-472-6703**

**CANADA/MEXICO 800-321-6703**

**INTERNATIONAL 715-234-9171**

**[www.ricelake.com/truckscales](http://www.ricelake.com/truckscales)**



Your Rice Lake Weighing Systems distributor is:

**RICE LAKE**  
WEIGHING SYSTEMS  
To be the best by every measure<sup>®</sup>

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